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Coastal Zone Management Program

STUDY OF FORT WILLIAMS PARK:
USES AND IMPACTS



Prepared for the Fort Williams Advisory Committee
Through a Maine Coastal Program Local Planning Grant

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EXECUTIVE SUMMARY

Due to dramatic growth in the use of Fort Williams Park in Cape Elizabeth, the following study was conducted to determine the effects of such high levels of use. Of special concern are the effects on the park itself, the effects on residents, especially those living closest to the park, and the effects on the Cape Elizabeth community as a whole. By determining the nature and extent of these effects, it is hoped that policymaking for the park can be better geared for future demands that high levels of use may place on the park.

In order to study these effects, two surveys were conducted. The first was a survey of actual users in the park which was conducted on site at the park. The second was a survey of Cape Elizabeth residents conducted by mail. The results of these surveys indicate that indeed there is a high level of use currently at Fort Williams. Cape Elizabeth residents are the most frequent users, especially those living closest to the park. The lighthouse and enjoyment of the view are main purposes for visits to the park. Residents also come frequently to the park to participate in recreational sports. Natural preservation is the most highly valued aspect of the park by Cape Elizabeth residents.

Traffic generated by the park does cause some problem for residents especially those living closest to the park. One method of dealing with this problem is to institute a non-resident fee in order to discourage increased traffic on the roads leading to the park.

Residents were also asked to consider priorities for spending additional tax dollars on the park. Generally, residents favored spending more money on the park. Their top priority for such spending is the construction of restrooms. Also items, such as maintenance of the mansion, litter removal and accessibility of trails, that deal with the maintenance of the park are high priorities for additional spending. This underscores the fact that residents highly value and wish to maintain the existing natural state of the park.

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I. INTRODUCTION

Fort Williams is a municipal park owned and operated by the town of Cape Elizabeth. It is located off Shore Road and contains about 94 acres on which are ballfields, basketball courts and tennis courts. There is a nature trail which runs most of the length of the ocean frontage, and an exercise/jogging route called the Par Course. It also has a beach open for swimming during the summer months.

The park was used as military facility until 1964. One of the most historic aspects of the park is a lighthouse and lighthouse museum situated at the eastern end of the shoreline of the park. At the western end of the park are the remains of the Goddard Mansion, and throughout the park are the remains of walls, bunkers and other military edifices. The park's most prominent feature is the view it commands of Portland Harbor and the Atlantic Ocean.

Admission to the Park is free. The gates are closed at sunset, but it is open for day use all year round. The park occasionally hosts such activities as sporting events and outdoor concerts.

The Town of Cape Elizabeth acquired the Fort for municipal purposes in 1964. During the ten years following its acquisition, numerous studies were made of possible uses for the property. In 1974 the Town Council appointed the Fort Williams Study Committee to undertake an intensive study

in order to make recommendations for use of the park. In 1976, the Study Committee submitted its report which made the following recommendation:

Fort Williams is a unique community resource which has irreplaceable scenic, natural and historical qualities. As such it should be dedicated to predominately park, recreational and cultural uses, which uses preserve or enhance, and are otherwise fully compatible with, its unique qualities, and which uses are within the financial capabilities of the Town.

The Town Council adopted this as the basic Statement of Policy for Fort Williams and provided for the creation of an advisory committee to assist the Town Council with recommendations for implementation of this Statement of Policy. As a result of the study the Town Council proposed to appropriate funds in the range of \$30,000-40,000 annually for improvements and long-term maintenance over and above the cost of daily maintenance (approximately \$30,000).

Since that time the Fort Williams Advisory Committee has dealt with many possible uses of the park. Examples of such uses include charges for various types of uses, provisions for various sports, and summer activities. Consequently, the Advisory Committee has had to continually prioritize suggested uses of the park based on the Statement of Policy adopted by the Town Council. In August of 1978 the Advisory Committee rejected a proposal by the United States Army for a reserve center within the park. They found that this was inconsistent with the Fort Williams Statement of Policy.

The Advisory Committee has also had to decide on the appropriate amount of money with respect to the Town Council's policy vote of \$30,000 - \$40,000 annually. In October of 1984 the Committee considered recommending the appropriation of \$50,000 each year to pay for deferred long-term maintenance of the park. This increase was justified on the basis of a necessary adjustment for inflation. However, this increase was not passed. Currently, \$40,000 is being spent on Fort Williams for improvements and long-term maintenance annually. This in addition to the \$30,000 spent on daily maintenance of the park brings the total annual budget of the park to \$70,000.

In July of 1985, uses of the park came under public attention when congestion affected residents in the immediate neighborhood of the park.¹ Complaints were most often directed at parking in the area. Town councilors took immediate short-term action in the form of temporary "no parking" signs. However, these complaints served to highlight the fact that in the past three years use of Fort Williams Park increased by 135%. The Town Council, having approved substantial funds for the park, is concerned that too much use may devalue the park. That this is a real concern is underscored by the fact that groups desiring to use the park for activities for 100 to 10,000 persons make

¹Jim Saunders, "Cape resident complain of congestion," Portland Evening Express, July 9, 1985.

requests on a daily basis. The Statement of Policy of 1976 does not address clearly issues of this type and degree of use.

With the approval of the Town Council, Town Manager Michael McGovern obtained a Maine Coastal Program Local Planning Grant from the Maine State Planning Office to study park use. This study will examine the effects current high levels of use have. As such, it will be used as a tool for long-term policy. Key considerations of this study will be how use of the park affects Cape Elizabeth residents, their perceptions of the park, their use of the park, their willingness to spend additional money on the park and their priorities for park improvements.

The goal of this study is to begin to consider appropriate policies to be better prepared for future growth in the use of the park. The general perception is that current problems with use are increasing. These problems will be analyzed in this study and recommendations will be made to develop alternative solutions.

II. METHODOLOGY

A. Policy Review

In order to determine the appropriate focus of this study, the policies, history and nature of the park were reviewed. This included studying the recommendations of the Study Committee of 1976, decisions of the Town Council, minutes of the Fort Williams Advisory committee and articles from local newspapers.

This information was then used as a basis for interviews with local policymakers. Site visits were conducted to supplement input from the above data sources. Issues surfacing from this collection of data generated the questions used in the surveys for this study.

B. Traffic Counts and User Survey

A User Survey was conducted in August of 1985 by the Town of Cape Elizabeth in order to determine who uses the park and for what reasons during the summer months. User survey questionnaires were brief (see Appendix A). Questions dealt with the place of residence of users, length, purpose and frequency of visits and a yes/no vote for a dollar entrance fee. A space was provided for general comments. The user survey had 162 summer use respondents.

Traffic counts at the park entrance indicated that on an average summer day approximately 2181 cars entered the park.

About 67 percent of total day use is on weekdays and 33 percent on weekends. Surveys were distributed at the park on varying days of the week to reflect a rough approximation of actual user mix. Questionnaires were handed out at random by park rangers who waited for respondents to fill out the questionnaire and hand them back.

Percentages of responses to the place of residence of users was calculated with traffic counts to estimate approximate number of users from Cape Elizabeth, the greater Portland area, Maine, New England and outside New England. Estimations were also made of how the total population might respond to the other questions of the survey.

In order to determine how the Cape Elizabeth user responded to the other questions in the survey, their responses were separated and tabulated. These results were then compared to the answers of the group of users as a whole. Results of these responses were then used to develop questions for the Resident Survey.

General comments from the User Survey were also compiled. A rough assessment from these were made to determine what are positive and negative impacts of park use. Again, general comments of Cape Elizabeth users were separated and compared to general responses. These responses were also used to develop questions for the subsequent survey.

C. Resident Survey

The central focus of the Resident Survey was to determine how use of Fort Williams impacts on Cape Elizabeth as a whole. The total population of the survey was, therefore, the population of Cape Elizabeth, approximately 8,000. These 8,000 residents composed approximately 3,000 households.

It was determined that 2.5% of the population or 200 responses would be a good representation of the total population. Anticipating a 25% response rate, 800 questionnaires were mailed out to households, drawn from a random selection off a computer generated mailing list of the 3,000 households. All questionnaires were coded by number in case a response rate of less than 25% necessitated follow-up postcards to elicit a greater response.

The actual number of responses was 472, a response rate of 57%. The resident survey reflects the responses of 5.7% of the total population of Cape Elizabeth.

Resident survey questionnaires were more detailed than the user survey and included a brief section on the two State Parks in Cape Elizabeth (see Appendix B). Questions dealt with years of residence in Cape Elizabeth, number in household, distance of residence from the park, frequency and type of use, means of transportation to park, areas of positive and negative impacts of park use, preference for ways of spending tax money on the park, amount to be spent and general comments.

Results of the survey were entered into a computer file and analyzed first for frequencies and averages of responses. The results of this analysis is discussed in the section entitled "Simple Results." In order to determine how residents' responses to certain questions relate to their responses to other questions, responses were cross tabulated. The significance of these tabulations was also tested to determine the probability of chance relationships.

It was then decided that it would be important to see if residents living in the immediate area of the park responded differently than other Cape Elizabeth residents. A computer mailing list of the immediate neighborhood determined by the Town Manager was generated. This list included 142 households. Each of these households was looked up in the list of households originally surveyed for their code numbers. It was found that 29 of the 142 neighboring households were mailed surveys. Returned questionnaires were then scanned and 20 of the 29 neighboring residents surveyed were identified--a response rate of almost 69%.

Results of these surveys were separated from the original group. These were analyzed in the same way as the other responses and the results of the two sets of computations were compared with each other.

III. SIMPLE RESULTS

A. USER SURVEY

Responses to the User Survey were tabulated in order to determine where users come from and how they use Fort Williams Park. Traffic counts were used to estimate how the total population would answer the survey questions. These results are used to answer the following questions which are key to making policy with regard to park use:

1. How many persons use the park annually?
2. Where do they reside?
3. Why do they come to the park?
4. How long do they stay?
5. Are they willing to pay for use?

The main purpose of this analysis is to arrive at rough estimates in response to the above questions. Therefore, certain assumptions were made in order to derive these estimates. Such estimates will be adequate to determine the general level of current use which will need to be considered for making policy.

How many persons use Fort Williams Park annually?

Approximately, 951,477 persons use Fort Williams annually. This figure was estimated by first looking at the frequency of use based on responses of the User Survey. The frequency and percentage of results are listed below with an estimate of how total park users might have answered on an average day using the average daily traffic count of 2181.

<u>How often do you visit</u>	<u>Responses</u>	<u>Percent</u>	<u>Estimated Total</u>
First time	40	25	545
Once every few years	7	4	87
Approx. once per year	20	12	262
Weekly	30	19	414
Several times per week	41	25	545
Daily	21	13	284
No response	3	2	44
Total	162	100	2181

These results indicate that a substantial portion of visitors who (57%) visit the park during the summer months visit the park on at least a weekly basis. However, because this survey was taken during the summer and the survey did not include "Monthly" as an option for respondents, 57% of 2181 is not appropriate estimate of yearly visitors. Therefore, it is necessary to make a few assumptions about seasonal and off-season visits to the park in order to determine the total number of annual visitors to the park.

It is assumed that the summer season for tourists runs from mid-June to September 1st, approximately 78 days. The off-season would then consist of three periods: pre- and post-season periods and the winter period. Pre-season, which would include visitors who come to the park during the spring, and post-season, which would include visitors who come to the park during the fall, are assumed to have about the same number of average daily visitors. These periods are assumed to run from mid-April to mid-June and from September 1st to October 31st, respectively; they total approximately 122 days. During the summer, 57% visit the park on at least a weekly basis, therefore, it is assumed that at least 35% of the average daily summer traffic count represents the average

daily pre- and post-season traffic count. This would be approximately 763 people. The remainder of the year is the winter period, 165 days. It is assumed that at least 15% of the average daily summer traffic count represents the average daily winter period traffic count, approximately 327 cars. These numbers multiplied by their respectively daily average traffic count and added together gives an approximation of the total annual traffic count.

$$\begin{array}{r r r r r r r}
 2,181 & & 763 & & 327 & & \\
 \times \underline{78} & & \times \underline{122} & & \times \underline{165} & & \\
 170,118 & + & 93,086 & + & 53,955 & = & 317,159 \\
 & & & & & & \text{=====}
 \end{array}$$

Based on resident survey results (which will be discussed later in this section), the average number of persons in a car visiting the park is approximately 3. Using this approximation, we arrive at the number of persons who use the park annually ($317,159 \times 3 = 951,477$).

Where do users reside?

The park is used by people from Maine, New England and the rest of the United States, although use tends to be most concentrated in towns adjacent to the park, e.g., Cape Elizabeth, Portland, and South Portland.

<u>Place of Residence</u>	<u>Responses</u>	<u>Percent</u>	<u>Estimated Totals</u>
Cape Elizabeth	37	23	502
South Portland	38	23	502
Portland	19	12	262
Other Greater Portland	21	13	284
Maine Outside G.P.	6	4	87
Other New England State	9	5	109
Outside New England	32	20	436
Total	162	100	2181

Most users surveyed reside in the greater Portland area (71%) which represents a substantial amount of local use. This local use is mostly attributable to residents of Cape Elizabeth, South Portland and Portland (58%) although only 23% of the users surveyed reside in Cape Elizabeth. It is interesting to note that although only small percentages of users are from Maine outside the Greater Portland area (4%) and other New England States (5%), a substantial number of users (20%) come from outside New England. This indicates that Fort Williams has some national notoriety. It can be estimated from this that approximately 632 people of those visiting the park on an average summer day reside outside the Greater Portland Area.

Why do people come to Fort Williams?

People come primarily to enjoy the view (28%), to visit the lighthouse (24%), for recreational sports (15%), and to picnic (13%). Even though this survey was taken in the summer, the beach was the purpose of visits for very few users (4%).

<u>Purpose of visit</u>	<u>Responses</u>	<u>Percent</u>	<u>Estimated Totals</u>
Lighthouse	52	24	707
Beach	10	4	117
Picnic	29	13	383
Recreational sport	33	15	442
Enjoy the view	61	28	824
Other	35	16	471
Total	220	100	2944

These results indicate that the beach is made little use of and, unless there is a need to alleviate congestion at other beaches in the area, further planning need not involve extending beach facilities. On the other hand, extensive use of the lighthouse may indicate that continued growth in the use of the park may warrant either development of more space in the lighthouse area or more maintenance of the lighthouse or both. Likewise, those aspects of the park that enable visitors to enjoy the view may warrant the attention of policymakers. For example, nature trails that enable viewing the ocean could be made more spacious and/or more accessible. Although there are numerous picnic areas, the degree they are presently used may indicate that future growth will require increased maintenance of these facilities.

How long do people stay at Fort Williams Park?

Most users stay at the park less than an hour (70%). Only 8% of all users stay longer than three hours.

<u>Length of Visit to Park</u>	<u>Responses</u>	<u>Percent</u>	<u>Estimated Totals</u>
0 to 10 minutes	16	10	218
11 to 29 minutes	41	25	545
30 to 59 minutes	33	20	436
One hour	24	15	327
One to three hours	35	22	480
Over three hours	13	8	174
Total	162	100	2182

These results indicate that, although a substantial number of people visit the park on a daily basis, most visitors do not stay long. This fact may alleviate crowding problems

generally associated with high use areas. As such, where heavy use occurs in the park, maintenance, rather than further development, may be appropriate.

Are visitors willing to pay for use?

On the basis of the responses, visitors are not willing to pay an entrance fee.

<u>\$1.00 Fee</u>	<u>Responses</u>	<u>Percent</u>	<u>Estimated Totals</u>
Yes	43	27	589
No	112	69	1505
Not sure	4	2	44
No response	3	2	44
Total	162	100	2181

Costs of visiting Fort Williams is not limited to the charging of an entrance fee. For those who travel to the park by car, gas, tolls, and a percentage of car maintenance contribute to this cost. The charging of an admission fee would be an addition to the cost of a visit rather than the creation of the cost of a visit. Visitors may be willing to pay an additional cost, although they would most likely prefer not to. Therefore, it is difficult to assume that all responds answered on the basis of their willingness to pay rather their preference. However, the substantial majority of those who answered that they would not pay the dollar fee may well indicate that such a fee would decrease park use somewhat, although presumably not as much as by 69%.

B. RESIDENT SURVEY

Most simple results of the resident survey were tabulated for the percentage of responses to each answer, although, where appropriate, average responses were tabulated instead. This survey is used to take a more comprehensive look at resident use than what was extrapolated from the general user survey. It characterizes the nature of each resident's own use of the park as well as resident perceptions of use of the park by others. In this way, it will specifically address key issues concerning Fort Williams impact on the Cape Elizabeth community.

Of those residents surveyed, there was a wide range in the number of years each has lived in Cape Elizabeth and the number of persons in each household. The average number of years of residence in Cape Elizabeth of those surveyed was 18 and the average number per household is approximately 3. Most of those surveyed live two or less miles from the park (53%) and their usual mode of transportation is car (87%) with an average size party of approximately 3 persons.

How often do Cape Elizabeth residents visit Fort Williams?

A substantial majority of those surveyed frequent the park at least once a month (84%) and of those that frequent the park at least once a month, 35% frequent the park at least weekly.

Frequency of visits
Total number of responses 472

13%	Daily or several times a week
22%	Once a week
49%	Once a month
14%	Once a year
2%	Less than once a year
1%	Never

These results differ significantly from the User Survey results (See Compound Results under User Survey) which indicate that 89% of Cape Elizabeth users visit the park on at least a weekly basis. The Resident Survey results indicate that only 35% of Cape Elizabeth residents visit the park on at least a weekly basis. However, this difference may be due to the fact that a category for monthly visits was excluded from the User Survey. Respondents to the User Survey who visit the park on a monthly basis may have been more inclined to characterize the frequency of their visits as weekly rather than yearly. Therefore, if visits on at least a monthly basis can be considered frequent use of the park, then Resident Survey results (84% on at least a monthly basis) agree significantly with the User Survey results to this question. Generally, it can be concluded that most Cape Elizabeth residents make frequent use of the park.

For what purpose do Cape Elizabeth residents most frequently visit the park?

The major purpose for which residents visit the park on at least a monthly basis is to enjoy the view (77%). This response indicates the greater value residents place on the

natural aspects of the park than on any other single aspect of the park.

Purposes of visits by frequency

Purpose	Never	Daily	Once a Month	Once a Year	Less than Annually	
Lighthouse	5%	3%	55%	32%	6%	419
Beach	39%	4%	25%	19%	14%	322
Picnic	19%	2%	31%	41%	7%	355
Recreational Sport	23%	10%	44%	14%	8%	348
Enjoy view	2%	10%	67%	18%	4%	450

This differs somewhat from the user survey results. However, two other purposes of visits for which residents visit the park on mostly, at least, a monthly basis are the lighthouse (58%) and a recreational sport (54%). In this way, the three main reasons for resident use of the park from the results of this survey agree with the results of the User Survey.

How beneficial are various aspects of Fort Williams to Cape Elizabeth residents?

More respondents ranked natural preservation as extremely beneficial (67%) than they did any other aspect of the park. This confirms the above conclusion that residents place greater value on the natural aspects of the park than on any other single aspect of the park. However, all aspects of the park listed (individual recreation, historical value, natural preservation, community activities, and tourist attraction) as well as the overall rating, were ranked extremely beneficial by at least 50% of the respondents.

Aspects of park ranked by benefit to community

	No Benefit				Extremely Beneficial	# Responses
	1	2	3	4	5	
Individual						
Recreation	2%	7%	18%	21%	52%	445
Historical Value	2%	5%	15%	18%	60%	462
Natural						
Preservation	2%	3%	10%	19%	67%	456
Community						
Activities	1%	6%	14%	23%	56%	447
Tourist						
Attraction	7%	4%	14%	16%	59%	457
Overall Rating	1%	.4%	8%	24%	67%	449

If 4 can be considered a reasonably high rank, then all the above items were ranked high by at least 70% of the respondents. This, taken into consideration with results of the purpose of resident use, indicate that Cape Elizabeth resident indeed appreciate the total variety of aspects and uses Fort Williams affords.

How detrimental are various aspects of Fort Williams to Cape Elizabeth residents?

Only a small percentage of respondents ranked various aspects of the park as extremely detrimental. Only one of the possibly detrimental aspects listed was ranked extremely detrimental by more than 10% of the respondents. However, when considering a high rank of detrimental as determined above (a rating of either 4 or 5), two aspects are ranked high by a significant percentage of respondents: traffic (9%) and hangout for undesirable groups (20%).

Aspects of Fort Williams ranked by their impact on the community

	Not Detrimental				Extremely Detrimental	
	1	2	3	4	5	RS
Noise	72%	19%	6%	1%	1%	439
Traffic	46%	27%	18%	6%	3%	443
Parking	63%	21%	12%	2%	2%	433
Wasted Space	87%	6%	4%	2%	1%	409
Hangout for undesirable groups	38%	24%	18%	8%	12%	406
An eyesore	91%	6%	2%	.2%	1%	415
Overall Rating	70%	19%	8%	1%	1%	428

How much these above factors impact on Cape Elizabeth can be more precisely determined by looking at how residents closer to the park rank the above aspects. This is done in the next section entitled "Compound Results."

How would Cape Elizabeth residents be willing to spend additional tax money on Fort Williams?

There was strong support for tax dollars to be spent on the provision of restrooms at the park (71%). No other single item had more than 50% support of the respondents. Other items that got more than 25% support for which tax dollars should be spent were continued maintenance on the mansion (39%), greater effort to remove litter (31%), increased accessibility of trails (31%) and additional tennis courts (27%).

Items on which additional tax dollars could be spent

Total Responses 472

- 39% Continued Maintenance on the Mansion
- 71% Provision of Restrooms (there are no Restrooms at present)
- 31% Greater Effort to Remove Litter
 - More provisions for sports:
 - 27% Additional Tennis Courts
 - 16% Additional Ballfields
 - 15% Additional Basketball Courts
 - 11% Handball Courts
- 31% Increased Accessibility of Trails
 - Capital Development:
 - 10% Snack bar
 - 3% Amusements such as merry-go-round
 - 11% Information booth
- 11% Other (please specify) 16 - maintain; 7 - activities;
 - 4 - picnic shelter; 4 - nature trail;
 - 2 - flowers.

These results may indicate how residents, who want a general increase in taxes spent on Fort Williams, want this money spent. This will be discussed further in this report in the section, "Compound Results." The few (11%) and diverse responses to the space marked "Other" indicate that respondents felt that most of the major areas of improvement that require extra revenue were covered. Those written responses that appeared more than once are listed above.

Three questions were posed in order to assess whether residents favored an increase of tax dollars spent on Fort Williams and exactly how much they felt should be spent on Fort Williams.

Do you agree or disagree with the following statements:

-I am not willing to spend any additional tax money--the right amount is being spent currently.

	Agree	Disagree
RS 402	46%	54%

-I feel that too much money is already spent on Fort Williams.

	Agree	Disagree
RS 363	7%	93%

This year's budget for Fort Williams will require \$7,000 of property tax monies or an average of \$8.75 from each resident of Cape Elizabeth. How much do you feel is a reasonable annual cost per resident?

average approx. \$11.00

The last question which attempts to determine the exact amount of tax dollars that residents wish to spend on the park contained an error. The yearly budget for Fort Williams is actually \$70,000 rather than \$7,000 as the question states. The average of \$8.75 per resident per year is the correct figure and according to this respondents generally favored an increase. However, this result is invalidated by the error in the question. Rather the first two questions can only be used to determine how much should be spent on the park according to the respondents.

Very few respondents agreed with the statement that too much money is currently being spent on the park (7%). In addition, 54% disagreed that the right amount is currently being spent. Therefore, it may be concluded that most of those who responded to these two questions would favor an increase in the amount of money spent on the park. This conclusion can be clarified by looking at how each respondent answered one question in terms of the other which will be presented in the section, "Compound results."

In a space provided for additional comments, approximately 39% of all respondents wrote in comments. These comments were digested into short summary phrases. Those that appeared more than once are listed below.

Additional comments:

- 103 - maintain natural beauty
- 15 - charge non-residents
- 7 - more activities (i.e. concerts)
- 5 - keep at present tax rate
- 4 - add restrooms
- 4 - present pace of development OK
- 4 - commercial development
- 2 - fee in summer
- 2 - do something about dogs
- 2 - more parking
- 2 - trim trails

A substantial majority of the comments dealt with maintaining the natural beauty of the park. Most of these comments were complimentary of current park policy and management and indicated strong opposition to any development within the park especially of a commercial nature. This supports the conclusion that natural preservation is considered an extremely beneficial aspect of the park by a substantial majority of the residents. Together with the high percentage of respondents who rated the park as being highly beneficial overall and the high percentage of respondents who rated the park as not being detrimental overall, the number of comments that favor maintenance of the park's natural beauty indicates that the residents of Cape Elizabeth are generally very satisfied with the park in its present state.

IV. COMPOUND RESULTS

A. USER SURVEY

Compound results for the survey look at the possible differences between the answers of Cape Elizabeth residents and the answers of all users surveyed. This will begin to help us look at how use patterns and needs of Cape Elizabeth residents are similar to or differ from the present Statement of Policy for the park and the uses for which all people come to the park. Specifically, questions this section will answer are:

1. Do Cape Elizabeth residents stay at the park longer than other users?
2. Do the purpose for which residents visit the park differ from other users?
3. Do residents visit the park more frequently than other users?
4. Are residents more or less willing to pay a fee for entering the park than other users?

Answers to these questions will indicate whether the setting of certain policies in order to moderate park use will have more of a negative or positive effect on the use patterns of Cape Elizabeth residents. It will also enable us to determine whether the park is primarily beneficial to Cape Elizabeth residents or to the general public in its present state.

Do Cape Elizabeth residents stay at the park longer than other users?

Slightly more Cape Elizabeth users stay longer than all users. 70% of all users and 68% of Cape Elizabeth users stay

an hour or less. Of the 72 users that stay an hour or longer, only 18% stay longer than three hours, while, of the 13 Cape Elizabeth users that stay an hour or longer, 38% stay longer than three hours.

Length of Visit to Park	All Users		Cape Residents	
	Response	%	Response	%
0 to 10 minutes	16	10	7	19
11 to 29 minutes	41	25	8	22
30 to 59 minutes	33	20	9	24
One hour	24	15	2	5
One to three hours	35	22	6	16
Over three hours	13	8	5	14
Total	162	100	37	100

This indicates that the length of visits for Cape Elizabeth use varies more than the length of visits for all general use which is characterized by short visits. Certain types of use often require longer lengths of stay than others. For example, people who come specifically to enjoy the view or visit the lighthouse may not stay as long as those who come to play a particular sport who, likewise, may not stay as long as those who come to do a combination of day activities (i.e. swim, sunbath and picnic). The fact that resident lengths of visits vary may indicate the purposes for which they come vary as well.

Do the purpose for which residents visit the park differ from other users?

The purposes of user visits varies significantly between resident users and all users. Each user surveyed could respond to more than one choice, and, although most did not.

several did. Therefore, results indicate the variety of purposes for which users come to the park rather than the greatest attraction for each user.

Purpose of visit	All Users		Cape Residents	
	Response	%	Response	%
Lighthouse	52	24	6	14
Beach	10	4	2	5
Picnic	29	13	3	7
Recreational sport	33	15	19	44
Enjoy the view	61	28	7	16
Other	35	16	6	14
Total	220	100	43	100

The two main purposes of visits for all users are to visit the lighthouse (24%) and to enjoy the view (28%). This is in sharp contrast to the main purpose of visits for resident users which is recreational sport (44%) while only 15% of all users indicated that they used the park for a recreational sport. Of all those who come to the park for recreational sport, 58% are Cape Elizabeth residents. The beach was the purpose of visits for very few users, both residents (5%) and all users (4%). However, 20% of those that use the beach are residents, while only 10% of those who picnic, 11% of those who come to enjoy the view and 12% of those who visit the lighthouse are residents.

This indicates that while residents enjoy the same uses of the park as all users, there are other uses which residents enjoy more than other users. Therefore, residents are a group of users who are most likely to take advantage of the variety of activities the park has to offer. Policies which might restrict the number of activities in the park would have more of a negative impact on residents than non-residents.

Do residents visit the park more frequently than other users?

Cape Elizabeth users survey come to the park more frequently than all users surveyed. While 67% of all those surveyed come to the park less than weekly (approximately one per year), 89% of Cape Elizabeth users come to the park either weekly, several times a week or daily.

	All Users		Cape Residents	
	Response	%	Response	%
How often do you visit				
First time	40	25	3	8
Once every few years	7	4	1	3
Approx. once per year	20	12	0	0
Weekly	30	19	7	19
Several times per week	41	25	14	38
Daily	21	13	12	32
No response	3	2	0	0
Total	162	100	37	100

This is a strong indication that Cape residents do use the park more often than residents of other communities. Cape Elizabeth users constitute only 6% of those who use the park only once a year but 36% of those who use the park more often.

Are residents more or less willing to pay a fee for entering the park than other users?

Most users would not pay a \$1.00 fee for park use. This did not vary significantly between residents and all users, in fact, the responses of residents reflect almost identically the responses of all users.

	All Users		Cape Residents	
	Response	%	Response	%
\$1.00 Fee				
Yes	43	27	10	27
No	112	69	25	68
Not sure	4	2	1	3
No response	3	2	1	3
Total	162	100	37	100

27% of both groups said that they would pay a fee while 69% of all users and 68% of resident users said they would not. For each of these responses the percentage of residents to total responses was approximately the same as the percentage of users who are residents of Cape Elizabeth--23%.

Most comments of both residents and all users were generally favorable. Comments of both groups reflected generally the same areas of concern: maintenance, facilities, staff and other users. The general attitude conveyed among all comments was that the park is beneficial as it is, and that most users would be unfavorable to major changes in the park.

The results of the user survey generally indicate that Fort Williams attracts mostly local users, most visits are an hour or less in duration, the lighthouse and the view are main attractions for all while the main attraction for Cape Elizabeth is recreational sports, Cape Elizabeth residents are the most frequent users and there is a general unwillingness to pay a fee which is felt as strongly by resident users as by all users surveyed.

B. RESIDENT SURVEY

The following section looks at how residents' responses to certain questions relate to their responses to other questions. This type of analysis will be useful in determining patterns, types and value of park use by residents. The determination of use patterns will indicate whether current policy and park management is adequately suited for the preferences of Cape Elizabeth residents.

Several questions from the survey were cross tabulated. Only those cross tabulations for which there is less than a 10% chance that the two variables in these tabulations are actually independent of one another will be discussed in detail.

How does the distance residents live from the park relate to how they value various aspects of the park?

The distance residents live from the park and the value they placed on the individual recreation that the park affords is the only significant relationship between resident distance and how they value various aspects of the park. The distance residents live from the park has no other significant effect on how residents value the following aspects of the park: historical value, natural preservation, community activities and tourist attraction. The distance residents live from the park was also not related to how beneficial they think the park is overall.

Distance	Degree of Individual Recreation as a Benefit (Scale: 1 - 5)			
	1	2	3-5	Total
Frequency				
Percentage				
Row %				
Less than a mile	11	12	66	89
	2%	3%	14%	19%
	12%	13%	74%	100%
Between 1 and 2 miles	29	19	115	163
	6%	4%	24%	34%
	18%	12%	71%	100%
More than 2 miles	29	49	142	220
	6%	10%	30%	46%
	13%	22%	65%	100%

There is a 4% chance that the two variables in this tabulations are actually independent of one another. This indicates that the individual recreation which the park offers is valued more by those who live closer to the park. This may be a significant finding if the park also produces negative neighborhood effects. Compensation for such negative effects might be offset by increased funding of maintenance and additional individual recreational facilities within the park. The fact that no other perception of beneficial aspects of the park is so related to the distance residents live from the park indicates that residents generally feel the park is at least very beneficial no matter where in Cape Elizabeth they live.

How does the frequency with which residents visit the park for specific purposes relate to the total frequency with which residents visit the park?

The only purpose of visits listed that does not significantly relate to the frequency with which residents

come to the park is to use the beach. The lighthouse, picnicking, recreational sports and the view are major attractions for Cape Elizabeth residents as the charts below indicate.

<u>Lighthouse</u>	<u>by</u>	<u>Frequency</u>		
Frequency Percentage Row %		At least weekly	Monthly	Yearly or less
At least		120	165	29
Monthly		25%	35%	6%
		38%	53%	9%
Yearly or Less		45	64	51
		9%	14%	11%
		28%	40%	32%

<u>Picnicking</u>	<u>by</u>	<u>Frequency</u>		
Frequency Percentage Row %		At least weekly	Monthly	Yearly or less
At least		114	131	56
Monthly		24%	28%	12%
		38%	43%	19%
Yearly or Less		51	98	22
		11%	21%	5%
		30%	57%	13%

<u>Recreational Sport</u>	<u>by</u>	<u>Frequency</u>		
Frequency Percentage Row %		At least weekly	Monthly	Yearly or less
At least		149	187	60
Monthly		31%	39%	13%
		38%	47%	15%
Yearly or Less		16	42	20
		3%	9%	4%
		21%	54%	26%

<u>Enjoy the view</u>	<u>by</u>	<u>Frequency</u>	
Frequency Percentage Row %	At least weekly	Monthly	Yearly or less
At least	160	198	10
Monthly	34%	42%	2%
	43%	54%	3%
Yearly or Less	5	31	70
	1%	7%	15%
	5%	30%	66%

The probability that any of the above factors does not actually relate to the frequency with which residents visit the park is either 1% or less.

As these are factors that relate to the frequency with which residents visit the park, increased availability of these attraction may increase resident use of the park. If increased resident use is desirable, any of the following changes may produce this effect:

- Access to more parts of the lighthouse facility;
- Increased number of hours the lighthouse may be visited;
- More picnic tables, shelters and/or grills;
- More facilities for recreational sports;
- Elimination of anything that may obstruct the view; and,
- Construction of a tower for increased visibility of view.

How does the distance residents live from the park relate to how detrimental they find various aspects of the park?

The distance residents live from the park significantly relates to how much they perceive traffic attributable to the park as a problem. This is the only perception of negative

aspects of the park that is so related to the distance residents live from the park.

Distance	by	Impact of Traffic		
		Scale 1 = Not Detrimental 5 = Extremely Detrimental		
Frequency Percentage Row %		1 - 2	3	4 - 5
Less than a mile	59		16	14
	13%		3%	3%
	66%		18%	16%
One to two miles	128		24	11
	27%		5%	2%
	79%		15%	7%
More than two miles	166		39	15
	35%		8%	3%
	75%		18%	7%

The perceived impacts of noise, parking, wasted space, loitering, eyesore and overall effects were not significantly related to the distance residents live from the park. As the above chart indicates, the closer respondents live to the park the more they perceive traffic as being a detrimental effect of the park. There is only a 7% chance that no relationship actually exists between these two variables. This may indicate that roads closest to the park may not be adequate for the levels of present traffic generated by the park.

Do residents who live closer to the park frequent the park more or less than residents who live further from the park?

Residents who live closer to the park frequent the park most often. As the chart below indicates, those residents

that live less than a mile from the park are more likely to visit the park on at least a weekly basis than those that live further away.

<u>Distance from park</u>	<u>by</u>	<u>Frequency of visits</u>	
Frequency Percentage Row %	Weekly or more	Monthly	Yearly or less
Less than a mile	58 12% 65%	24 5% 27%	7 1% 8%
Between 1 and 2 miles	65 14% 40%	79 17% 48%	19 4% 12%
More than 2 miles	41 9% 19%	125 26% 57%	54 11% 25%

The probability that these two variables are independent is 1 (or less) in 10,000. The fact that those closest to the park are the park's most frequent users is significant when setting policy that is aimed at dealing with negative neighborhood effects of the park. If such policies entail substantial limitations on park use, the effect on residents living closest to the park may be more negative than positive as these residents are mostly likely use the park at its current level of accessibility.

How does frequency of resident use relate to residents' perceptions of how beneficial and detrimental Fort Williams is to the community?

There is a strong relationship between how beneficial residents feel the park is and how frequently they visit the

park. There is less of a relationship between how detrimental residents feel the park is and how frequently they visit the park, however, this relationship is also statistically significant.

<u>Frequency of Visits</u>	<u>by</u>	<u>Benefit</u>		
Frequency		Scale: 1 = Not Beneficial		
Percentage		5 = Extremely Beneficial		
Row %	1 - 3	4	5	
Daily	4	12	44	
	1%	3%	9%	
	7%	20%	73%	
Weekly	7	22	74	
	1%	5%	16%	
	7%	21%	72%	
Monthly	33	53	143	
	7%	11%	30%	
	14%	23%	62%	
Yearly or less	23	20	37	
	5%	4%	8%	
	29%	25%	46%	

<u>Frequency of Visits</u>	<u>by</u>	<u>Overall Impact</u>		
Frequency		Scale: 1 = Not Detrimental		
Percentage		5 = Extremely Detrimental		
Row %	1	2	3 - 5	
Daily	36	17	4	
	8%	4%	1%	
	63%	30%	7%	
Weekly	70	17	11	
	16%	4%	3%	
	71%	17%	11%	
Monthly	150	40	17	
	35%	9%	4%	
	72%	19%	8%	
Yearly or less	43	9	12	
	10%	2%	3%	
	67%	14%	19%	

The more residents use the park the more likely they are to find it beneficial. There is only a 4 in 10,000 chance that this relationship does not exist. Likewise, the less residents use the park the more likely they are to find it detrimental. The probability that this relationship does not exist is 10%. It is hard to determine from this alone whether more residents would feel the park is beneficial if they used the park more frequently. If this were true, it is then important to determine if improvement of the park would generate more resident use and whether need for park improvement is negatively correlated to how beneficial they feel the park is.

What factors relate to how many improvements residents feel it is appropriate to spend additional tax dollars on?

The survey listed 11 specific items and a space for written suggestions as to how additional tax dollars may be spent to improve the park. The number of improvements each respondent cited was compared to their answers to other questions in order to determine what relates to the feeling that improvements are needed.

The only factor tested that related to how many improvements residents feel is appropriate to spend tax dollars on is how beneficial they felt the park was overall. The more respondents feel that the park is beneficial overall the more likely they are to cite at least 3 - 5 improvements on which tax dollars should be spent.

Number of Improvements	by	How Beneficial	
		Scale: 1 = Not Beneficial 5 = Extremely Beneficial	
Frequency Percentage Row%		1 - 3	4 - 5
0 - 2		43 9% 18%	199 42% 82%
3 - 5		19 4% 11%	162 34% 90%
6 - 12		6 1% 12%	44 9% 88%

There is less than a 10% chance that the two variables in this tabulations are actually independent of one another. There is no significant relationship between how many improvements on which additional tax dollars respondents feel should be spent and either the frequency of visits to the park, the distance they live from the park or their perception of the overall negative impact the park has on the community. This indicates that those residents who are already favorable about the park in general would support a moderate amount of improvements. This means that the need for improvement is positively, not negatively, correlated to how beneficial residents feel the park is. Consequently, improvements to the park may neither substantially increase resident use of the park nor change residents' perceptions of how beneficial or detrimental the park is to the community.

Should additional tax dollars be spent on the park?

As discussed previously in the section entitled "Simple Results," responses to (1) whether more money should not be spent on the park and (2) whether too much money is currently being spent indicate that most respondents favor an increase in the amount of money spent on the park. This becomes more apparent when looking at how each respondent answered each question in terms of the other. Disagreement with the first question and agreement with the second question indicate that the respondent feels that less money should be spent on the park than is currently being spent. Agreement with the first question and disagreement with the second question would indicate that the respondent feels that the right amount is currently being spent but that no more should be spent. Disagreement with both questions indicate that the respondent feels that more money should be spent.

<u>More money should not be spent</u>	<u>by</u>	<u>Too much money is being spent</u>
Frequency		
Percentage	Disagree	Agree
Disagree	207 61%	2 1%
Agree	113 34%	15 4%

Clearly, agreement with both questions would indicate that respondents were confused as to how to answer the questions. However, the results indicate that such confusion among respondents was minimal. The results also indicate that 61%

of respondents to both these questions feel more money should be spent on Fort Williams. The probability that these variables are independent of one another is 1 (or less) in 10,000.

How do those who want more money spent on Fort Williams want that money spent?

Of those who indicated more money should be spent on Fort Williams, most agreed on only two areas on which additional tax dollars should be spend: (1) continued maintenance of the mansion and (2) restrooms. Of those who indicated that either more or the same amount of money should be spent on the park, most agreed only that additional tax dollars should be spent on restrooms. With the exception of amusements and an information booth, there was a significant positive relationship between the amount respondents were willing to spend on the park and the percentage of agreement on what to spend additional tax dollars.

The chart below indicates how many of those who answered both questions (337) agreed on spending money on a given item. Of the 337 respondents to these questions, 207 felt more money should be spent, 113 felt the same amount should be spent and 17 either felt less should be spent or were inconsistent in their answers.

Item	Amount		
	More	Same	Less or confused
Number			
Restrooms	172	69	10
Mansion maintenance	116	30	1
Accessibility of trails	96	23	0
Litter removal	97	17	4
Tennis courts	83	22	0
Ballfields	51	13	0
Basketball courts	54	6	0
Other	32	9	1
Handball courts	32	8	0
Snack bar	31	7	2
Information booths	30	12	1
Amusements	8	5	1

As those who feel that the present amount or more is appropriate to spend on the park, the number of people in these categories for each item above were added together. The above items are ordered according to this sum--highest to lowest. This does not vary greatly from the order of total respondents in favor of each item from highest to lowest. However, this is a better ranking of spending priorities for Fort Williams in terms of resident opinion.

Of those surveyed (473), almost half indicated they would spend additional tax dollars on either 2 or less items while the other half indicated they would spend additional tax dollars on either 3 or more items. Therefore, in the above

ranking of spending priorities, special attention should be given to the first three items with some consideration for the fourth. These are priorities in terms of all respondents with consideration for those most willing to spend additional tax dollars.

What are priority spending items for those residents who most frequently use the park?

There are only two significant relationships between frequency of resident use and how residents felt additional dollars should be spent on specific items. Those items are the maintenance of the mansion and handball courts. For all other items listed as well as written suggestions, there was no significant relationship between frequency of resident use and on which additional tax dollars should be spent.

<u>Frequency of visits</u>	<u>by</u>	<u>Mansion maintenance</u>
Frequency		
Percentage		
Row %	Opposed	In favor
Daily	26	34
	6%	7%
	43%	57%
Weekly	66	37
	14%	8%
	64%	36%
Monthly	146	83
	31%	18%
	64%	36%
Yearly	39	26
	8%	6%
	60%	40%
Less than yearly	11	4
	2%	1%
	73%	27%

<u>Frequency of visits</u>	<u>by</u>	<u>Handball courts</u>
Frequency		
Percentage		
Row %	Opposed	In favor
Daily	50	10
	11%	2%
	83%	17%
Weekly	98	5
	21%	1%
	95%	5%
Monthly	208	21
	44%	4%
	91%	9%
Yearly	54	11
	11%	2%
	83%	17%
Less than yearly	12	3
	3%	1%
	80%	20%

Generally, there was a positive relationship between how frequently residents visit the park and how likely they were to favor continued maintenance of the mansion. On the other hand, there was a negative relationship between how frequently residents visit the park and how likely they were to favor the addition of handball courts. This indicates that if additional tax dollars were spent according to the first two priorities of all respondents as listed above, then the preference of the most frequent park users would be met as well.

What are priority spending items for residents who live closest to the park?

Proximity to the park and residents' preference for increased accessibility of the trails was the only significant relationship between proximity and spending priorities. There was no significant relationship between how close residents live to the park and what other items they felt more tax dollars should be spent on.

What factors are related to how much residents are willing to spend on Fort Williams?

Frequency of visits, perceptions of how beneficial the park is and perceptions of how detrimental the park is are factors significantly related to how much residents are willing to spend on Fort Williams. How close residents live to the park is not significantly related to how much they are willing to spend on the park.

<u>Amount</u>	<u>by</u>	<u>Frequency of visits</u>
Frequency		
Percentage		
Row %	Monthly or more	Yearly or less
More	181	26
	54%	8%
	87%	13%
Same	98	15
	29%	4%
	87%	13%
Less or confused	11	6
	3%	8%
	65%	35%

<u>Amount</u>	<u>by</u>	<u>How beneficial</u>		
		Scale: 1 = Not beneficial		
		5 = Extremely beneficial		
Frequency				
Percentage				
Row %	1 - 3	4	5	
More	17	39	151	
	5%	12%	45%	
	8%	19%	73%	
Same	16	25	72	
	5%	7%	21%	
	14%	22%	64%	
Less or confused	6	6	5	
	2%	2%	1%	
	35%	35%	29%	

<u>Amount</u>	<u>by</u>	<u>How Detrimental</u>		
		Scale: 1 = Not detrimental		
		5 = Extremely detrimental		
Frequency				
Percentage				
Row %	1	2	3 - 5	
More	135	45	12	
	43%	14%	4%	
	70%	23%	6%	
Same	77	128	12	
	24%	6%	4%	
	72%	17%	11%	
Less or confused	6	3	5	
	2%	1%	2%	
	43%	21%	36%	

Amount is positively related to frequency of visits and how beneficial residents perceive the park to be overall. Likewise, amount is negatively related to how detrimental residents perceive the park to be overall. This supports the conclusion that additional tax dollars spent on park improvements is favored by those who are already generally enthusiastic about the park. Though increased spending may not increase resident use of the park substantially, frequent

use, generally good feelings about the park and support for additional tax dollars to be spent on the park are characteristic of most of the respondents.

How do the responses of all those surveyed differ from the responses of residents in the immediate area of the park?

Of the 473 residents surveyed, 21 were identified by coding as being the responses of those in the immediate area of the park. This was used to determine neighborhood effects more precisely than by previous comparisons of responses of those living less than a mile, between one and two miles and more than two miles from the park, as discussed above.

T-tests were run to determine if there were significant differences between the responses of these residents in the immediate area of the park and the responses of the other residents surveyed. Questions for which t-tests were run were: frequency of visits, those dealing with specific purposes of visits, those dealing with specific potentially beneficial aspects of the park, those dealing with specific potentially detrimental aspects of the park, those dealing with specific items on which additional tax money should be spent, how much tax money should be spent and the number of improvements on which to spend additional tax money. Generally, the results of these tests support, previous comparisons of these questions with the distance residents live from the park.

With only a 7% chance of error, it can be asserted that traffic is perceived as more of a detrimental aspect of the park by those in the immediate area of the park. These residents also are more likely to visit the park more frequently than others. The probability that this is not the case is 1 (or less) in 10,000. The residents in the immediate area of the park are more likely to come to enjoy the view than other residents (probability of error: 3 in 1,000), and do not favor spending more tax money on accessibility of trails (probability of error: 4%) or the addition of amusements (probability of error: 1 [or less] in 10,000) as much as other residents.

What is most significant about these results is that they confirm the conclusion that residents closest to the park use the park more frequently. When this is considered in conjunction with the fact that on most other questions, area residents did not significantly differ in their responses from other residents who general favor the park in its current state, it can be concluded that drastic policy changes affecting park use based on residents' opinions is not in order.

However, these results also confirm that traffic attributable to the park is perceived as a problem for a substantial number of residents living closest to the park. Therefore, a primary concern for setting policy for the park is to alleviate the burden traffic imposes on the immediate area without substantially limiting use of the park.

V. POLICY CONSIDERATIONS

A. POLICY CHANGES

Results of this study indicate that drastic policy changes for Fort Williams Park are not in order at this time. Cape Elizabeth residents are very satisfied with the park in its present state. This general satisfaction is shared equally by all residents regardless of how far they live from the park. Indicators of resident satisfaction with the park are the frequency of their use, the variety of their purposes and lengths of visits, and their ranking of both beneficial and detrimental aspects of the park.

The Resident Survey indicates that most Cape Elizabeth residents make frequent visits to the park. Moreover, residents use the park more often than residents of any other community. This is underscored by the fact that those in the immediate area of the park are more likely to visit the park more frequently than even other Cape Elizabeth residents.

Residents especially appreciate its natural state over other aspects of the park. Their high ranking of natural preservation, the number of residents who come to enjoy the view and the large number of their comments directed at maintaining the natural beauty of the park all confirm this vast appreciation for its natural state. Those in the immediate area of the park are even more likely to enjoy the view than other residents.

Cape Elizabeth residents as a group of users are most likely to take advantage of the variety of activities that park has to offer. Aside from coming to the park to enjoy the view, the lighthouse and recreational sports are popular purposes of visits among residents. The length of visits for Cape Elizabeth users varies more than the length of visits for all users. This may support the assertion that the purposes for which residents come to the park vary. Likewise, their ranking of various aspects of the park confirms that they appreciate the total variety of aspects and uses Fort Williams affords. Therefore, policies which might restrict the number of activities in the park would have more of a negative impact on residents than non-residents.

Aside from limitation of activities inside the park, limitations on number of hours the park is open during the day would impact negatively on residents. This is especially true of residents living closest to the park as they are most likely to use the park at its current level of accessibility.

A user fee would also be an example of drastic policy that would negatively impact on Cape Elizabeth residents as both residents and non-residents alike responded that they would not pay a dollar entrance fee to the park. However, a fee for non-residents may have limited impact on residents' visits to the park.

Although some improvements to the park are favored by residents, the results of this survey indicate that such

improvements will not substantially increase resident use nor improve residents overall attitudes about the park. Though residents see the need for some improvements, most types of improvements or changes in the park are not favored by residents.

B. BURDEN OF USE ON THE PARK

High levels of park use may place a burden on general upkeep of the park. Results of this study indicate that the park hosts a large number of visitors not only during the summer but a substantial number year round as well. Year round visitors are predominantly Cape Elizabeth residents. This is supported by the fact that residents use the park more often than residents of any other community.

As enjoyment of the view and the lighthouse are major reasons for users visits, both residents and non-residents alike, special attention should be given to these areas as those most likely to be affected by high levels of use. Another area that requires attention is the provision for recreational sports as this is also a major reason for resident use. The area least likely to be affected by high levels of use is the beach.

Attempts to deal with high levels of use in terms of the lighthouse, enjoyment of the view and recreational sports may include more space in the lighthouse area, more spacious and/or accessible trails and more provisions for recreational

sports. However, as short visits characterize the average pattern of use, crowding may not be a major problem. On the other hand, where heavy use occurs in the park, maintenance, rather than further development, may be most appropriate.

This is supported by strong opposition by residents to extensive development within the park. Moreover, although recreational sports are a major reason for resident visits, items that dealt with additional provisions for recreational sports were generally not highly prioritized by residents. Likewise, although increased accessibility of trails was a relatively high priority for all residents, this was not true for residents in the immediate area of the park. However, increased accessibility of trails could be limited to making them more durable to heavy traffic. In this way, such an improvement would be a form a maintenance as well.

Resident responses clearly indicate that there is willingness to spend more tax money on the park. Among their priorities for the spending of this money which at least 30% of the residents favored were restrooms, maintenance of the mansion, litter removal and increased accessibility of trails. Each of these can either directly or indirectly increase the maintenance of the park in order to alleviate burdens placed on the park by high levels of use.

C. NEGATIVE NEIGHBORHOOD EFFECTS

Traffic is a major negative neighborhood effect of Fort Williams park. It is ranked at least very detrimental by about 10% of those surveyed. Moreover, those living closer to the park are more likely to perceive traffic as being a detrimental effect of the park. This is especially true of those who live in the immediate area of the park. This indicates that roads closest to the park may not be adequate for the levels of present traffic generated by the park. Because of the park's location and the amount of traffic to the park that is likely to come from the east, roads to the park from the east should be able to accommodate at least 44% more traffic than roads coming from the west.

Three possible ways of dealing with this negative effect are: (1) increase the number of roads leading to the park from the east, (2) compensate those closest to the park in some way for the additional burden that park traffic imposes on them, or (3) decrease use of and, therefore, traffic to the park. Consideration of the first option is beyond the scope of this study; this kind of decision would, of course, need to take into account a number of factors relative to Cape Elizabeth besides use of Fort Williams Park. However, consideration of the latter two options will be discussed in more detail below.

Since residents living closest to the park are more likely to enjoy recreational sports at the park than any

other resident, compensation for negative effects might take the form of maintenance of existing sports facilities and/or additional sports facilities within the park. However, results of this study also indicate that improvements to the park may neither substantially increase resident use of the park nor change residents' perceptions of how beneficial or detrimental the park is to the community. Furthermore, the distance residents live from the park had no significant effect on how resident prioritized spending additional tax dollars on items involving recreational sports which in general are ranked low by all in spending priorities. If additional spending were to be considered at all as a means of compensation for those living closest to the park, then this would entail specifically maintenance of the mansion which residents living closest to the park are more likely to favor than other residents. However, this clearly would not totally satisfy neighborhood concerns about traffic generated by the park. Other options need to be looked at as well.

Most forms of limited use of the park would, to varying degrees, decrease traffic to the park. However, if one of the major desired outcomes of such limitations is to respond to the needs of residents living closest to the park, then care must be taken as to what form of limited use is implemented. If policies entail substantial limitations on park use, the effect of residents living closest to the park may be more negative than positive as these residents are those most likely to use the park at its current level of accessibility.

Although accessibility of trails is a slightly higher priority than increase litter removal for respondents as a whole, accessibility of trails is not as much of a priority for residents who live closest to the park. This may indicate that those who live closest to the park, who especially enjoy the view, are satisfied with what the park has to offer already and that further development of such aspects of the park would be unnecessary. Indeed, such development may attract more visitors, thereby increasing traffic to the park. The point here is that, although limitation of activities inside the park as it now exists may not be in order, there is no strong indication by residents, especially those living closest to the park, that anything that would attract even more visitors is highly desirable at this time.

A fee at the gate of the park may decrease traffic to the park. Results of this survey show that a substantial majority of those who visit the park would not pay a dollar fee. However, this was just as true for Cape Elizabeth residents as non-residents. Therefore, such a policy would probably be more disadvantageous to residents, especially those living closest to the park, as these are the most frequent users. On the other hand, limitation of the fee to cars would be least likely to affect park use of those living closest to the park as these residents are most likely to walk. However, a car fee may exacerbate the problem, as recent park history indicates that users are willing to park

outside the park and walk in. A fee that was limited to non-residents would not impact on residents at all. 69% of all visitors said they would not pay a fee to enter the park. The major consideration before instituting a non-user fee would be whether such a fee would actually decrease non-resident use by 69%, and, if so, whether such a decrease is desirable. Also federal restrictions on the park that may prohibit such a fee must be referenced.

D. ADDITIONAL SPENDING

Results of this study indicate that a substantial majority of residents favor an increase in spending tax dollars on Fort Williams. This was true for all residents, regardless of how far they live from the park. Before serious consideration is given to how this money might be spent, results of this study indicate some need to look at why residents favor improvements and/or increased spending.

Generally, it is logical to assume that residents may want more money spent for those things they most use which in this case are the lighthouse, picnic areas, facilities for enjoying the view and, especially, facilities for recreational sports. However, this does not appear to be the case here. Spending additional tax dollars on items involving recreational sports is not a high priority for most residents. Actually, results of this study indicate that improvements to the park may neither substantially increase

resident use of the park nor change residents' perceptions of how beneficial or detrimental the park is to the community.

Factors that relate to how much residents are willing to spend on the park indicate that additional tax dollars spent on park improvements is favored by those who are already generally enthusiastic about the park which is the majority of the residents. Therefore, additional spending on the park should be motivated by an interest to satisfy residents who use the park rather than to attract residents that currently do not use the park in its present state.

Respondents to the survey can be divided into two fairly equally large groups: those who favor 2 or fewer improvements to the park and those who favor 3 or more improvements to the park. Of those items listed for spending consideration, the top four priorities of residents are given below:

1. Restrooms
2. Mansion Maintenance
3. Accessibility of Trails
4. Litter Removal

The only item that received more than 50% support of residents is restrooms which actually received 77% of resident support. Therefore, it is highly recommended that additional tax dollars be directed first toward such facilities.

The other three items above received between 30% to 40% of resident support. Residents living closer to the park

favor sending additional money on maintenance of the mansion more so than other residents. Residents in the immediate area of the park were less likely to support increased accessibility of trails than other residents.

The varying lengths of visits among residents may indicate that continuous pedestrian traffic, rather than crowding, may be a key issue concerning park use. Therefore, additional spending may best be focused on maintenance rather than further development. Actually, comments by residents indicate strong opposition to most kinds of development within the park. The vast majority of comments indicate that residents highly value the existing natural beauty of the park. Residents rank natural preservation as extremely beneficial more so than any other aspect of the park. Therefore, considerations for additional spending on the park should take into account this value residents place on the park's natural aspects, and steer more toward initiatives that involve maintenance of what already exists.

VI. CONCLUSION

Cape Elizabeth residents greatly value Fort Williams Park as it currently exists. Residents especially appreciate the natural aspects of the park, and strongly oppose development within the park. Their interest in the park is further evidenced by the fact that the majority of residents visit the park on at least a monthly basis. Therefore, policies which would substantially limit the current accessibility of entrance to the park and activities within the park more so than those policies presently in place would have the greatest negative impact on the residents themselves.

Heavy use of the park does warrant some concern. Of special interest to users are the lighthouse, provisions for sports, and nature trails and the like which facilitate enjoyment of the view. Therefore, special attention should be given to the maintenance and upkeep of these areas, especially if use increases in the future.

Although residents highly value most other aspects of the park besides its natural beauty, traffic generated by the park does cause some concern for residents, especially those living closest to the park. A non-resident fee may alleviate this traffic problem. However, there is some indication that such a fee would significantly reduce non-resident use of the

park. Such an outcome should be seriously considered before instituting such a fee.

According to the priorities of residents, spending of additional tax dollars on the park should first go toward the construction of restroom facilities. Other spending priorities should focus on maintenance and upkeep of present facilities and not on further development. This is especially important in view of the high value residents place on the existing natural state of the park.

APPENDICES

APPENDIX A
USER SURVEY PRELIMINARY RESULTS

	All Users		Cape Residents	
Place of Residence	Response	%	Response	%
Cape Elizabeth	37	23	37	100
South Portland	38	23	0	0
Portland	19	12	0	0
Other Greater Portland	21	13	0	0
Maine Outside G.P.	6	4	0	0
Other New England State	9	5	0	0
Outside New England	32	20	0	0
Total	162	100	37	100

Length of Visit to Park				
0 to 10 minutes	16	10	7	19
11 to 29 minutes	41	25	8	22
30 to 59 minutes	33	20	9	24
One hour	24	15	2	5
One to three hours	35	22	6	16
Over three hours	13	8	5	14
Total	162	100	37	100

Purpose of visit				
Lighthouse	52	24	6	14
Beach	10	4	2	5
Picnic	29	13	3	7
Recreational sport	33	15	19	44
Enjoy the view	61	28	7	16
Other	35	16	6	14
Total	220	100	43	100

How often do you visit				
First time	40	25	3	8
Once every few years	7	4	1	3
Approx. once per year	20	12	0	0
Weekly	30	19	7	19
Several times per week	41	25	14	38
Daily	21	13	12	32
No response	3	2	0	0
Total	162	100	37	100

\$1.00 Fee				
Yes	43	27	10	27
No	112	69	25	68
Not sure	4	2	1	3
No response	3	2	1	3
Total	162	100	37	100

All users		Cape Residents	
Comments	Responses	Comments	Responses
General compliments	23	Generally favorable	12
Not enough to do	4	Maintenance favorable	5
Brochure/Info. Booth	4	Maintenance unfavorable	3
Snack bar/card shop	3	Facilities favorable	8
Easier Access:		Facilities unfavorable	3
Ramps & Stairs	1	Staff favorable	3
Wider, Easier Trails	2	Staff unfavorable	2
Unfavorable comments on other users	5		3

ALL RESIDENTS
APPENDIX B
FORT WILLIAMS QUESTIONNAIRE
CAPE ELIZABETH RESIDENTS

1. How long have you lived in Cape Elizabeth?

18 years average range 1 - 91
standard deviation 15.4 number of responses (RS) 472

2. How many members are there in your household?

average 2.9 RS 472
(# responses - # members) 112 - 4
 50 - 1 29 - 5
 184 - 2 13 - 6
 82 - 3 2 - 7

3. How often do you or a member of your household on the average visit Fort Williams?

RS 472

13% Daily or several times a week
22% Once a week
49% Once a month
14% Once a year
2% Less than once a year
1% Never

4. How far do you live from Fort Williams?

RS 472

19% less than 1 mile
34% 1 - 2 miles
47% more than 2 miles

5. How do usually get to Fort Williams?

RS 469

10% walk
87% by car
.2% by bus
2% other (please specify) 9 - bike; 2 - run.

5a. If by car, how many are usually in your party? average 2.85

1 - 6% 3 - 26% 5 - 7% 7 - .2
2 - 40% 4 - 20% 6 - 1%

6. How frequently do you visit Fort Williams for each of the following purposes?

	Never 1	Daily 2	Once a Month 3	Once a Year 4	Less than Annually 5	RS
Lighthouse	5%	3%	55%	32%	6%	419
Beach	39%	4%	25%	19%	14%	322
Picnic	19%	2%	31%	41%	7%	355
Recreational						
Sport	23%	10%	44%	14%	8%	348
Enjoy view	2%	10%	67%	18%	4%	450

Fort Williams Questionnaire, Continued

7. How beneficial is each of the following aspects of Fort Williams to Cape Elizabeth?

	No Benefit				Extremely Beneficial	
	1	2	3	4	5	RS
Individual						
Recreation	2%	7%	18%	21%	52%	445
Historical Value	2%	5%	15%	18%	60%	462
Natural						
Preservation	2%	3%	10%	19%	67%	456
Community						
Activities	1%	6%	14%	23%	56%	447
Tourist						
Attraction	7%	4%	14%	16%	59%	457
Overall Rating	1%	4%	8%	24%	67%	449

8. As they relate to Fort Williams, how would you rate the impact of each of the following factors on the residents of Cape Elizabeth?

	Not Detrimental				Extremely Detrimental	
	1	2	3	4	5	RS
Noise	72%	19%	6%	1%	1%	439
Traffic	46%	27%	18%	6%	3%	443
Parking	63%	21%	12%	2%	2%	433
Wasted Space	87%	6%	4%	2%	1%	409
Hangout for undesirable groups	38%	24%	18%	8%	12%	406
An eyesore	91%	6%	2%	1%	1%	415
Overall Rating	70%	19%	8%	1%	1%	428

10. Check as many of the following that you would be willing to spend additional tax money on at Fort Williams:

RS 472

- 39% Continued Maintenance on the Mansion
- 71% Provision of Restrooms (there are no Restrooms at present)
- 31% Greater Effort to Remove Litter
- More provisions for sports:
 - 27% Additional Tennis Courts
 - 16% Additional Ballfields
 - 15% Additional Basketball Courts
 - 11% Handball Courts
- 31% Increased Accessibility of Trails
- Capital Development:
 - 10% Snack bar
 - 3% Amusements such as merry-go-round
 - 11% Information booth
- 11% Other (please specify) 16 - maintain; 7 - activities; 4 - picnic shelter; 4 - nature trail; 2 - flowers.

Fort Williams Questionnaire, Continued

11. Do you agree or disagree with the following statements:

-I am not willing to spend any additional tax money--the right amount is being spent currently.

RS 402	Agree 46%	Disagree 54%
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-I feel that too much money is already spent on Fort Williams.

RS 363	Agree 7%	Disagree 93%
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12. This year's budget for Fort Williams will require \$7,000 of property tax monies or an average of \$8.75 from each resident of Cape Elizabeth. How much do you feel is a reasonable annual cost per resident? average approx. \$11.00

13. Any additional comments:

- 103 - maintain natural beauty
- 15 - charge non-residents
- 7 - more activities (i.e. concerts)
- 5 - keep at present tax rate
- 4 - add restrooms
- 4 - present pace of development OK
- 4 - commercial development
- 2 - fee in summer
- 2 - do something about dogs
- 2 - more parking
- 2 - trim trails

The following questions apply to Crescent Beach and Two Light State Park.

14. How often does a member of your household on the average visit each of the two state parks in Cape Elizabeth?

<u>Crescent Beach</u>	RS 446	<u>Two Lights</u>	RS 447
15% Several times a week		3% Several times a week	
18% Once a week		10% Once a week	
30% Once a month		39% Once a month	
22% Once a year		34% Once a year	
9% Less than once a year		9% Less than once a year	
6% Never		6% Never	

Fort Williams Questionnaire, Continued

15. How would you rate each of the two state parks' overall contribution to the community of Cape Elizabeth?

<u>Crescent Beach</u>					RS 465
Not Beneficial At All	Hardly Beneficial	Moderately Beneficial	Very Beneficial	Extremely Beneficial	
1	2	3	4	5	
2%	3%	23%	35%	38%	

<u>Two Lights State Park</u>					RS 464
Not Beneficial At All	Hardly Beneficial	Moderately Beneficial	Very Beneficial	Extremely Beneficial	
1	2	3	4	5	
1%	4%	23%	37%	36%	

16. For each of the two state parks, how would you rate the impact of each of the following factors on residents of Cape Elizabeth?

<u>Crescent Beach</u>						
	Not Detrimental				Extremely Detrimental	RS
	1	2	3	4	5	
Noise	77%	15%	6%	2%	1%	435
Traffic	53%	22%	16%	6%	3%	441
Parking	74%	13%	9%	3%	2%	434
Wasted Space	87%	8%	3%	1%	1%	411
Hangout for undesirable groups	57%	22%	13%	4%	4%	398
An eyesore	91%	6%	1%	1%	1%	415

<u>Two Light State Park</u>						
	Not Detrimental				Extremely Detrimental	RS
	1	2	3	4	5	
Noise	80%	14%	4%	1%	1%	430
Traffic	53%	22%	15%	6%	3%	439
Parking	68%	18%	9%	3%	2%	429
Wasted Space	87%	9%	2%	.2%	1%	412
Hangout for undesirable groups	61%	24%	10%	2%	3%	391
An eyesore	92%	5%	1%	.2%	1%	416

AREA RESIDENTS
APPENDIX C
FORT WILLIAMS QUESTIONNAIRE
CAPE ELIZABETH RESIDENTS

1. How long have you lived in Cape Elizabeth?

13 years average range 3-50
standard deviation 11 number of responses(RS) 21

2. How many members are there in your household?

average 3.3 RS 21
(# responses - # members)

6 - 2 8 - 4
5 - 3 2 - 5

3. How often do you or a member of your household on the average visit Fort Williams?

RS 21

10% Daily or several times a week
62% Once a week
29% Once a month
0% Once a year
0% Less than once a year
0% Never

4. How far do you live from Fort Williams?

RS 21

100% less than 1 mile
0% 1 - 2 miles
0% more than 2 miles

5. How do usually get to Fort Williams?

RS 21

76% walk
24% by car
0% by bus
0% other (please specify)

5a. If by car, how many are usually in your party? average 3

3 - 39%
2 - 29% 4 - 43%

RS 7

6. How frequently do you visit Fort Williams for each of the following purposes?

	Never 1	Daily 2	Once a Month 3	Once a Year 4	Less than Annually 5	RS
Lighthouse	0%	10%	67%	24%	0%	21
Beach	7%	36%	21%	14%	21%	14
Picnic	0%	7%	47%	40%	7%	15
Recreational						
Sport	13%	19%	31%	13%	25%	16
Enjoy view	0%	38%	57%	5%	0%	21

Fort Williams Questionnaire, Continued

7. How beneficial is each of the following aspects of Fort Williams to Cape Elizabeth?

	No Benefit				Extremely Beneficial	
	1	2	3	4	5	RS
Individual						
Recreation	0%	14%	19%	10%	57%	21
Historical Value	0%	5%	10%	19%	67%	21
Natural						
Preservation	0%	0%	24%	10%	67%	21
Community						
Activities	0%	5%	19%	10%	67%	21
Tourist						
Attraction	10%	0%	10%	24%	57%	21
Overall Rating	0%	0%	5%	24%	71%	21

8. As they relate to Fort Williams, how would you rate the impact of each of the following factors on the residents of Cape Elizabeth?

	Not Detrimental				Extremely Detrimental	
	1	2	3	4	5	RS
Noise	71%	19%	10%	0%	0%	21
Traffic	19%	38%	19%	10%	14%	21
Parking	42%	32%	21%	5%	0%	19
Wasted Space	84%	11%	0%	5%	0%	19
Hangout for undesirable groups	16%	21%	26%	16%	21%	19
An eyesore	95%	5%	0%	0%	0%	19
Overall Rating	65%	30%	5%	0%	0%	20

10. Check as many of the following that you would be ⁷willing to spend additional tax money on at Fort Williams:

RS 21

- 33% Continued Maintenance on the Mansion
- 67% Provision of Restrooms (there are no Restrooms at present)
- 24% Greater Effort to Remove Litter
- More provisions for sports:
 - 24% Additional Tennis Courts
 - 10% Additional Ballfields
 - 14% Additional Basketball Courts
 - 5% Handball Courts
- 10% Increased Accessibility of Trails
- Capital Development:
 - 5% Snack bar
 - 0% Amusements such as merry-go-round
 - 5% Information booth
- 14% Other (please specify)

Fort Williams Questionnaire, Continued

11. Do you agree or disagree with the following statements:

-I am not willing to spend any additional tax money--the right amount is being spent currently.

	Agree	Disagree
RS 18	50%	50%

-I feel that too much money is already spent on Fort Williams.

	Agree	Disagree
RS 16	6%	94%

12. This year's budget for Fort Williams will require \$7,000 of property tax monies or an average of \$8.75 from each resident of Cape Elizabeth. How much do you feel is a reasonable annual cost per resident? average approx. \$11.00

13. Any additional comments:

- maintain natural beauty
- charge non-residents
 - more activities (i.e. concerts)
 - keep at present tax rate
 - add restrooms
 - present pace of development OK
 - commercial development
 - fee in summer
 - do something about dogs
 - more parking
 - trim trails

The following questions apply to Crescent Beach and Two Light State Park.

14. How often does a member of your household on the average visit each of the two state parks in Cape Elizabeth?

<u>Crescent Beach</u>	RS 20	<u>Two Lights</u>	RS 20
0% Several times a week		5% Several times a week	
15% Once a week		0% Once a week	
10% Once a month		45% Once a month	
60% Once a year		30% Once a year	
15% Less than once a year		10% Less than once a year	
0% Never		10% Never	

Fort Williams Questionnaire, Continued



15. How would you rate each of the two state parks' overall contribution to the community of Cape Elizabeth?

<u>Crescent Beach</u>					RS
Not Beneficial	Hardly	Moderately	Very	Extremely	
At All	Beneficial	Beneficial	Beneficial	Beneficial	
1	2	3	4	5	
0%	0%	43%	24%	33%	

<u>Two Lights State Park</u>					RS
Not Beneficial	Hardly	Moderately	Very	Extremely	
At All	Beneficial	Beneficial	Beneficial	Beneficial	
1	2	3	4	5	
0%	0%	33%	38%	29%	

16. For each of the two state parks, how would you rate the impact of each of the following factors on residents of Cape Elizabeth?

<u>Crescent Beach</u>						
	Not				Extremely	
	Detrimental				Detrimental	
	1	2	3	4	5	RS
Noise	60%	30%	10%	0%	0%	20
Traffic	35%	30%	20%	10%	5%	20
Parking	63%	21%	11%	0%	5%	19
Wasted Space	68%	26%	5%	0%	0%	19
Hangout for						
undesirable						
groups	39%	33%	11%	11%	6%	18
An eyesore	90%	10%	0%	0%	0%	20

<u>Two Light State Park</u>						
	Not				Extremely	
	Detrimental				Detrimental	
	1	2	3	4	5	RS
Noise	55%	35%	10%	0%	0%	20
Traffic	40%	20%	25%	10%	5%	20
Parking	58%	26%	11%	0%	5%	19
Wasted Space	74%	21%	5%	0%	0%	19
Hangout for						
undesirable						
groups	44%	33%	17%	0%	6%	18
An eyesore	90%	10%	0%	0%	0%	20